

## FIGURE 1

## Rotor Angle Estimation

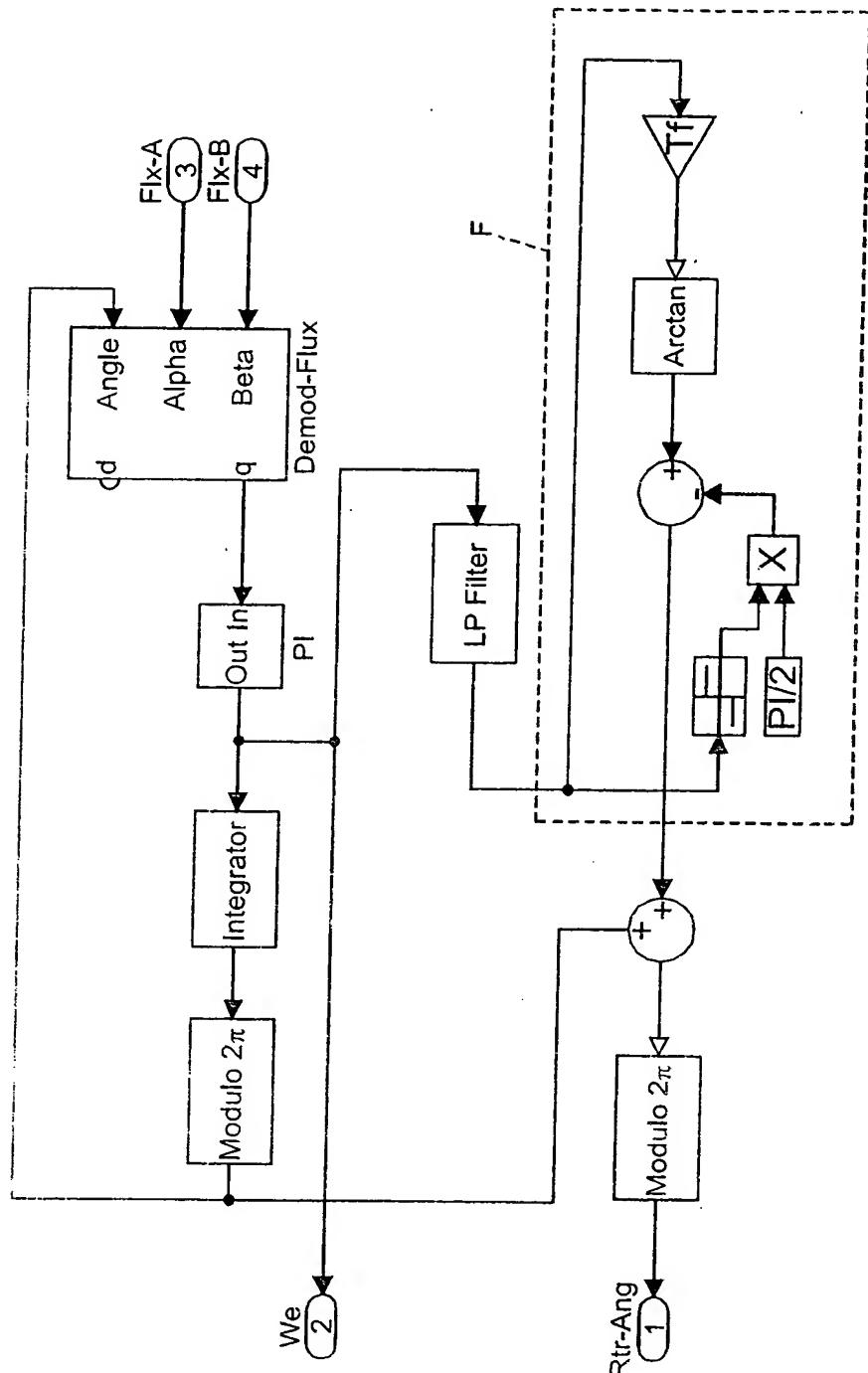


FIGURE 2

## Magnet Flux Estimation

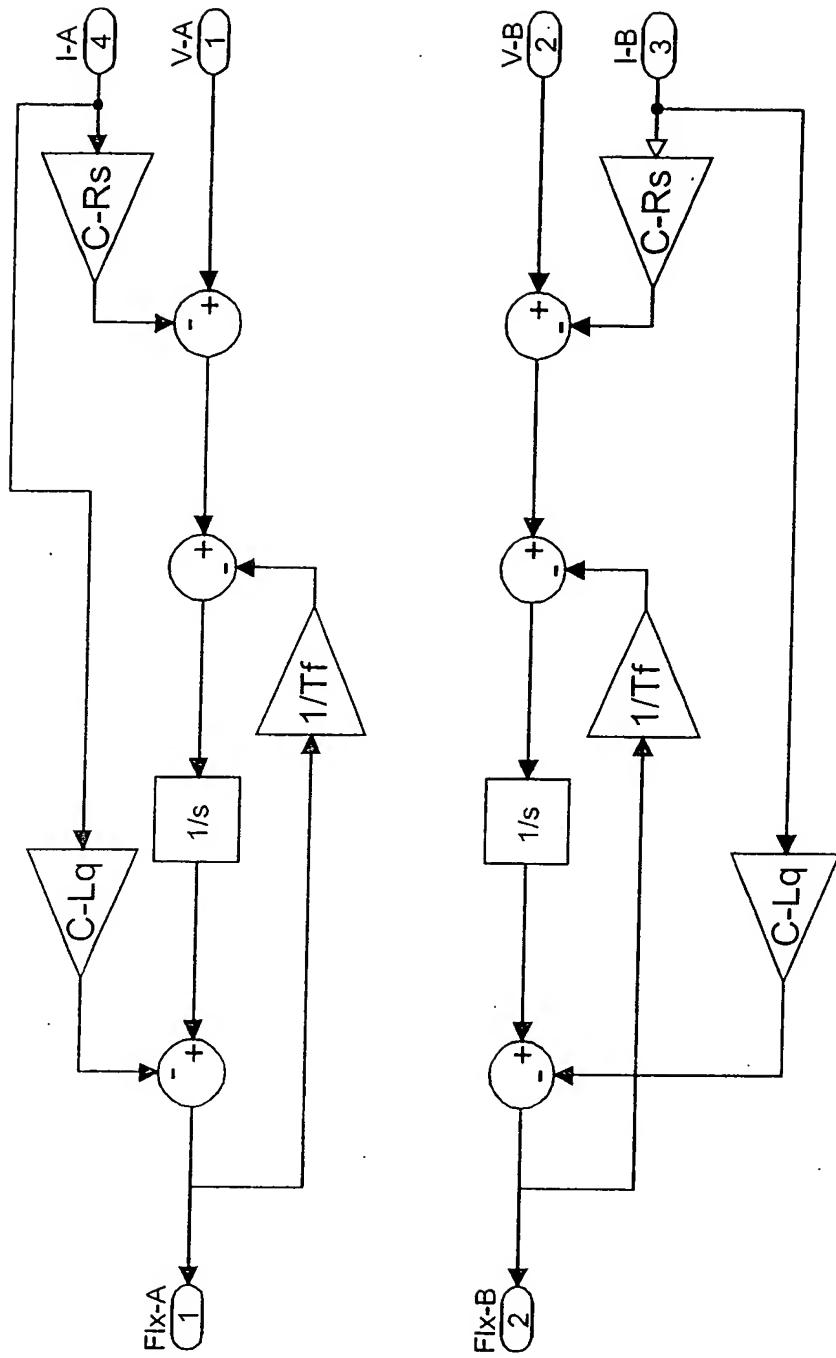


FIGURE 3

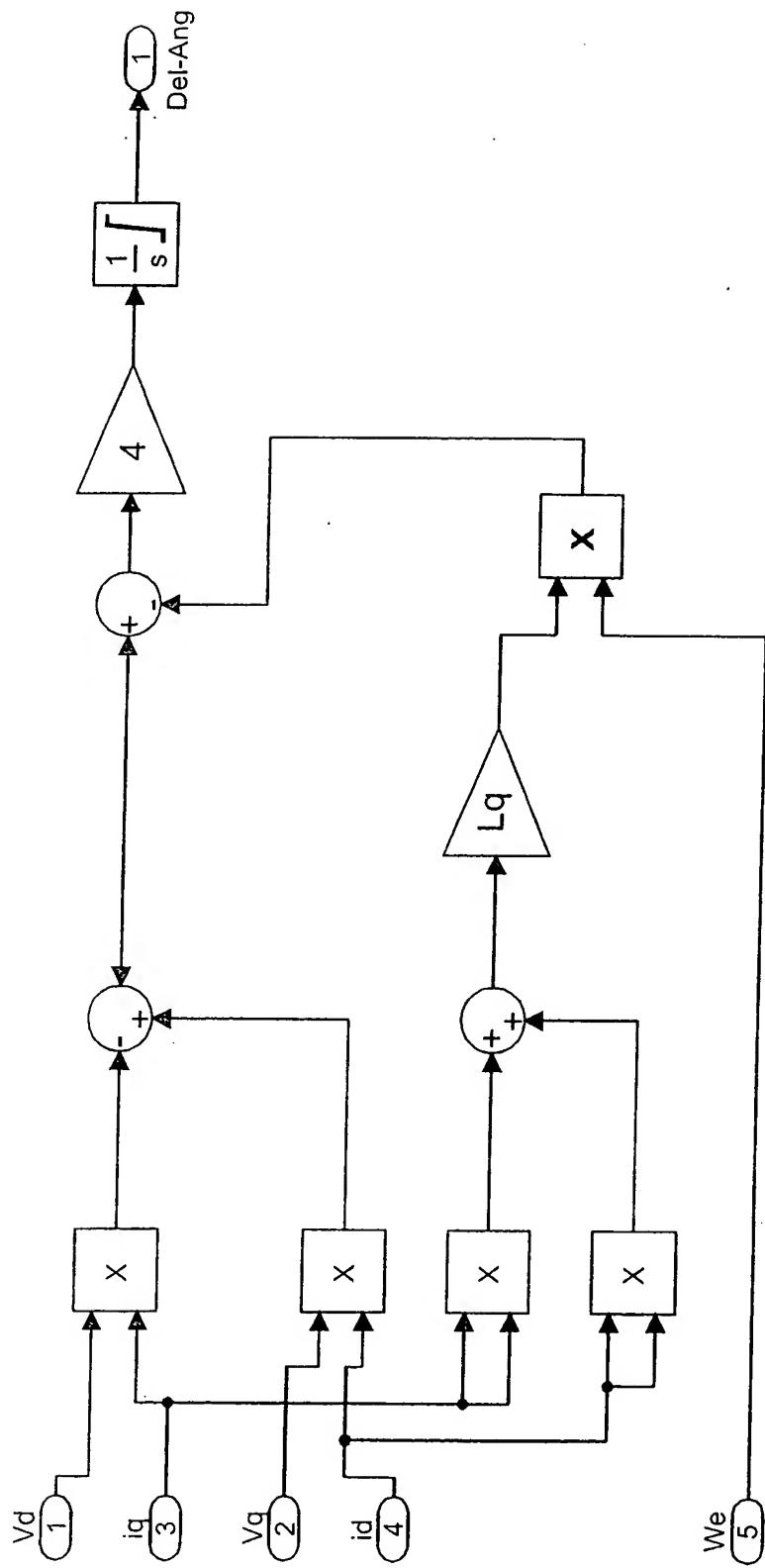
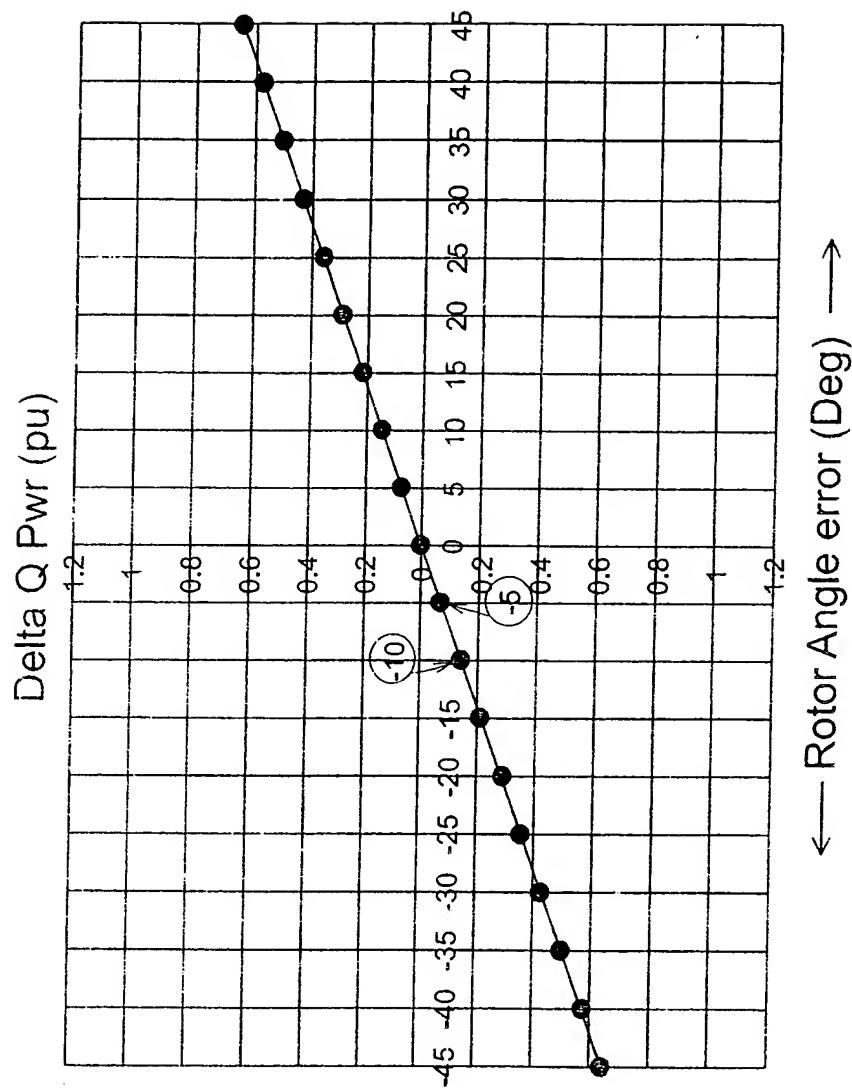


FIGURE 4

FIG. 5 Reactive power error vs Rotor angle error



## FIGURE 6

Aug - Camp

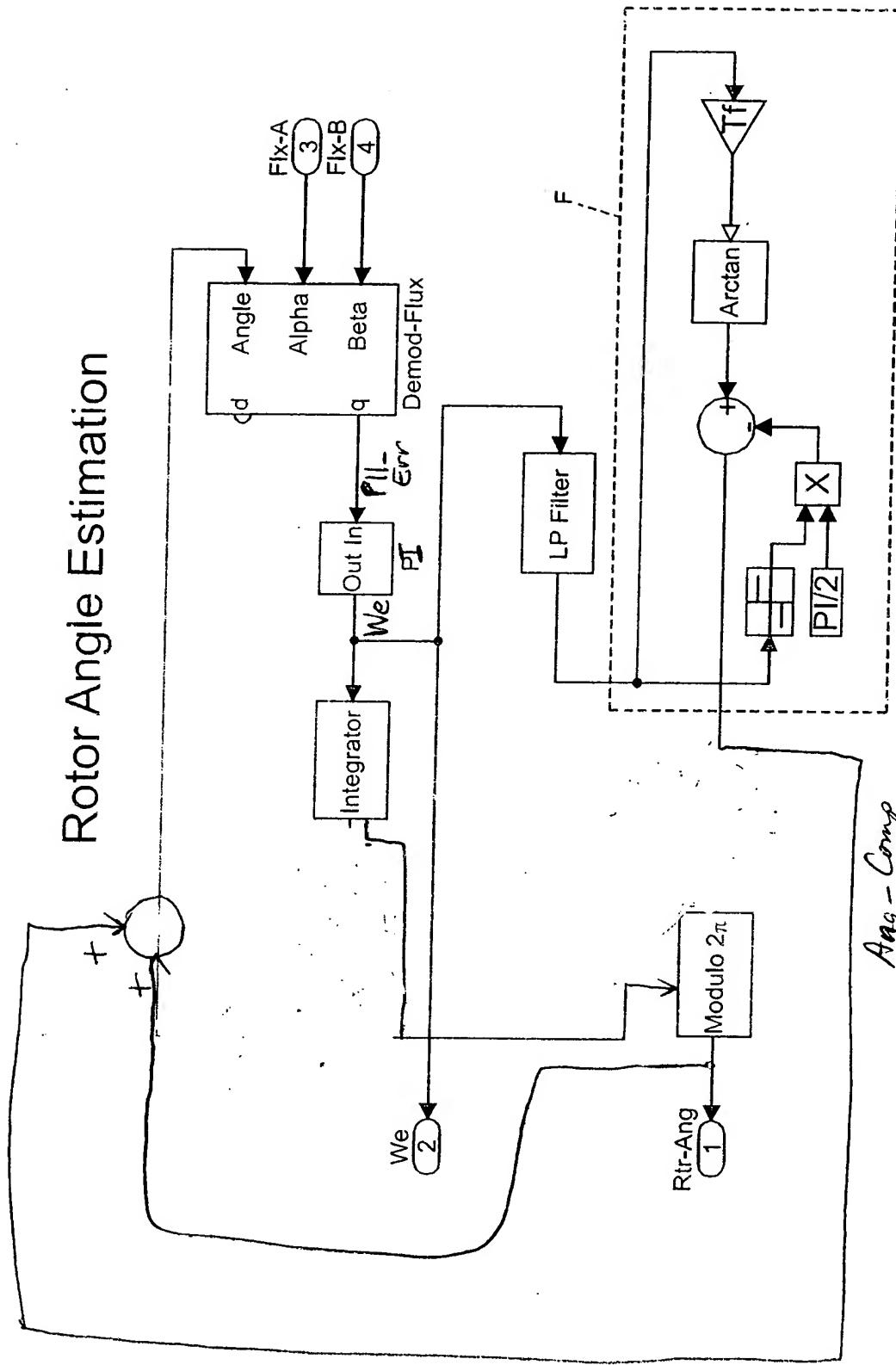
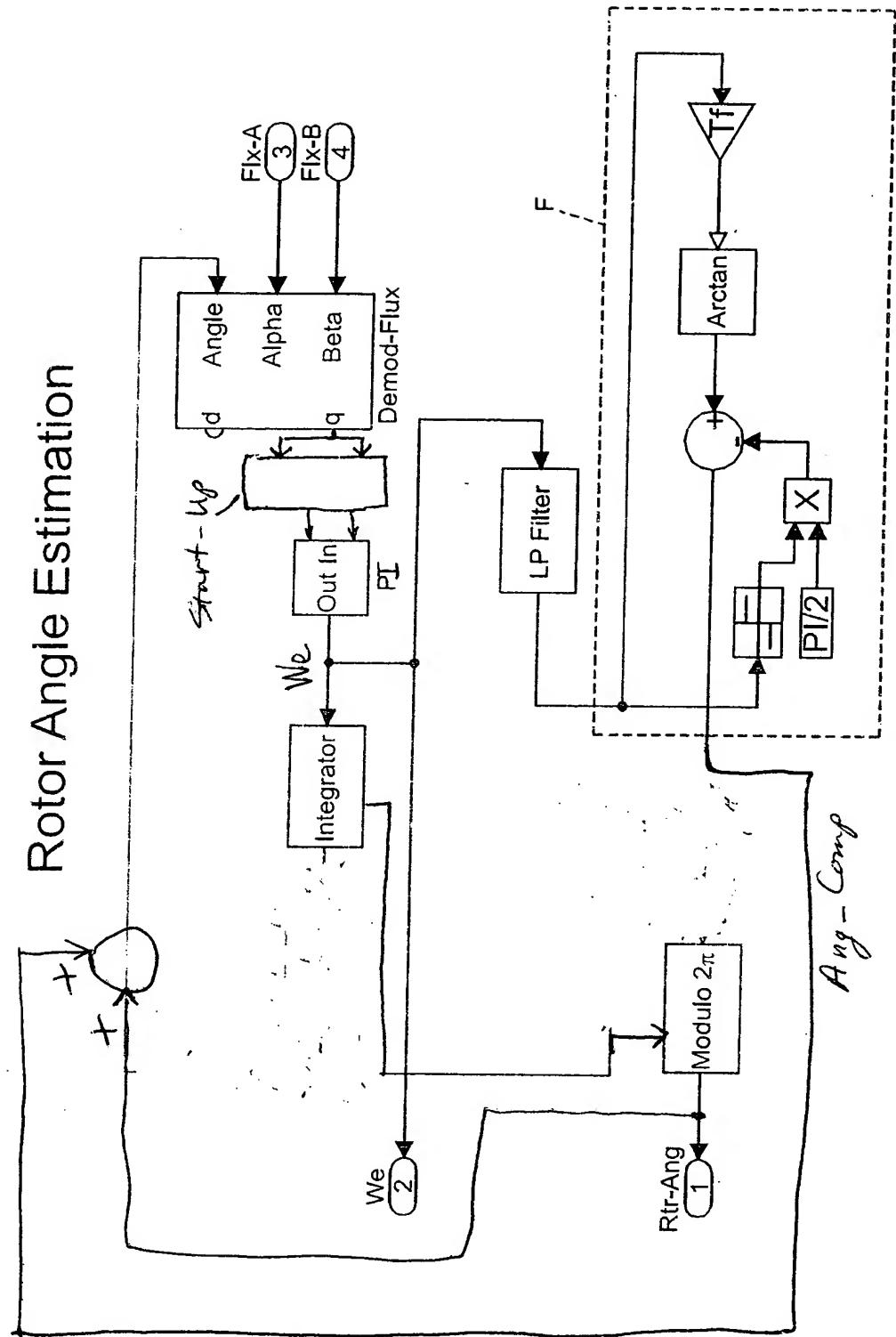


FIGURE 7



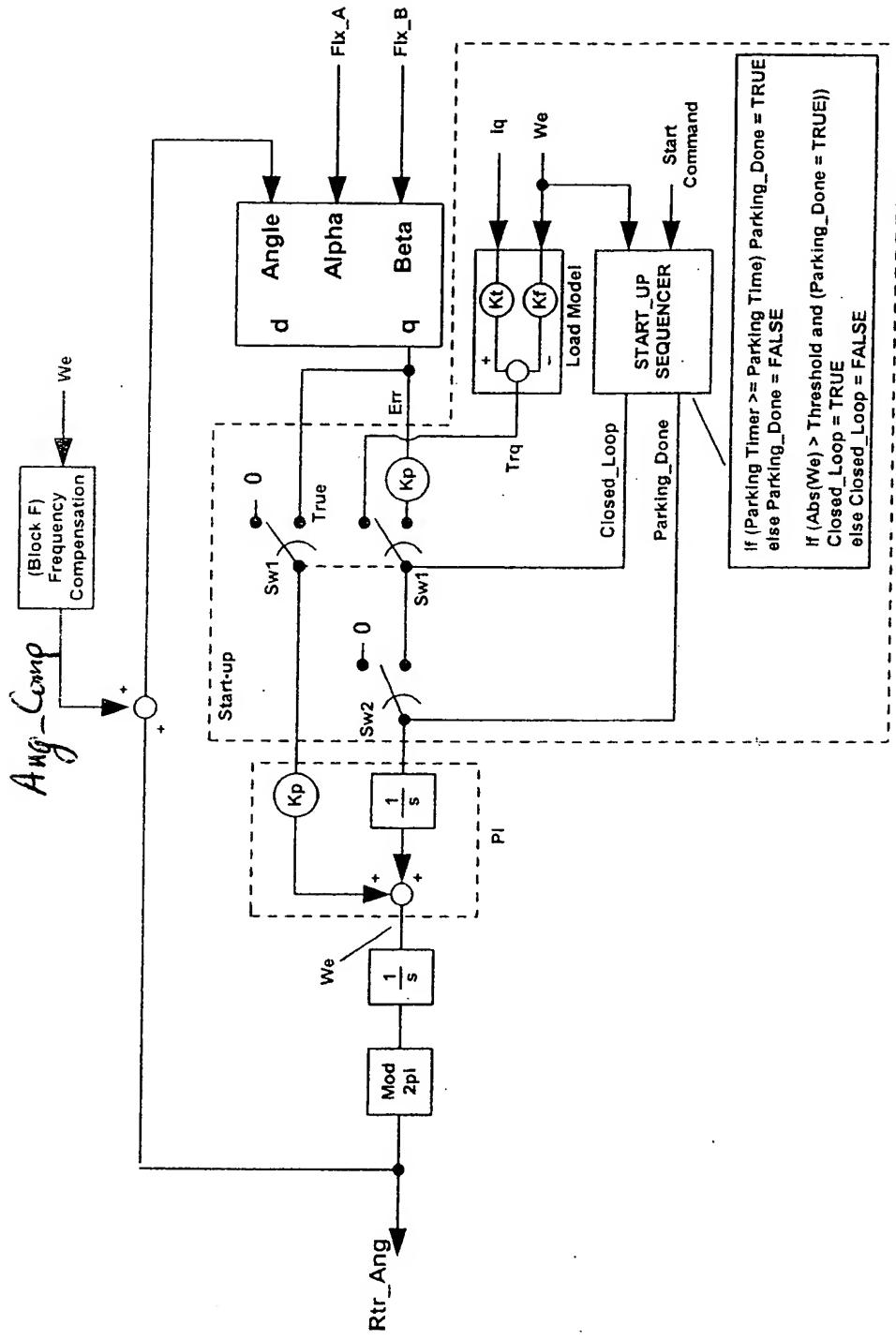


Fig. 8. Interface of Start-up module to PLL angle tracking module